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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,090	06/26/2003	Wayne Lawrence Felts	STL11280	4245

7590 09/13/2006  
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EXAMINER
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TRUJILLO, JAMES K

ART UNIT	PAPER NUMBER
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2116

DATE MAILED: 09/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/606,090	FELTS, WAYNE LAWRENCE	
	<b>Examiner</b>	<b>Art Unit</b>	
	James K. Trujillo	2116	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 January 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. It is hereby acknowledged that the following papers have been received and placed of record in the file: Amendment dated
2. Claims 1-20 are presented for examination.
3. The rejections with regard to claims 1-7 and 19 are respectfully maintained and reproduced infra for applicant's convenience. Rejections with regard to claims 8-18 and 20 are addressed below with respect to the amendment.

#### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1, 2, 6 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Sato et al., U.S. Patent Application Publication 20040019776.
6. Regarding claim 1, Sato teaches an apparatus comprising:
  - a. controlling an electrical load (disk 101 in figures 2 and 3) with first coded execute (boot program in paragraph [0079]) by a processor (processor 412 together disk controlling section 411, figure 3);

- b. releasing processor control so that the electrical load operates in an open control mode while the first code is displaced with a second code (while control is handed over to a main program, figures 1A, 1B and 5);
- c. reinstating processor control of the electrical load using the second code (control is handed over to a main program, figures 1A, 1B and 5).

7. Regarding claim 2, Sato taught the method according to claim 1, as described above.

Sato further teaches wherein the first code of the controlling step is supplied from a boot read only memory (Mask ROM 413, figure 3 and paragraph [0079]).

8. Regarding claim 6, Sato taught the method according to claim 1, as described above. Sato further teaches wherein the electrical load comprises a motor (a hard disk that is spun, figures 2,3 and 6).

9. Regarding claim 7, Sato taught the method according to claim 1, as described above. Sato further teaches wherein the motor supports a data storage medium, and wherein the controlling step comprises using the motor to rotate the data storage medium at an operational velocity (common rotation speed and steady speed, figures 1A, 1B and 5) and retrieving the second code from the rotating data storage medium (read main program from disk, figures 1A, 1B and 5).

10. Regarding claim 19, Sato taught the method according to claim 1, as described above. Sato further teaches wherein the processor operationally controls the electrical load (processor together with the disk controlling section is used to control the disk based on the startup code and main program, figures 1A, 1B and 5).

11. Regarding claim 20, Sato taught the method according to claim 1, as described above. Sato further teaches wherein at least one control signal is applied to the electrical load during the

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open control mode of the releasing step (the disk controlling section 411 steadily drives the spindle motor 404 and processor 412 no longer repeats steps 301 or 302 , paragraphs [0085] and [0086]).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 3-5 and 8-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al., U.S. Patent Application Publication 20040019776 in view of Broyles et al., U.S. Patent 6,405,311.

14. Regarding claim 14, Sato teaches an apparatus comprising:

- a. an electrical load (disk 101 in figures 2 and 3);
- b. a memory location (RAM 414, figure 3); and

a programmable processor (processor 412 together disk controlling section 411, figure 3) coupled to the memory location and adapted to control the electrical load (via motor driving section 401), wherein during and initialization process the processor executes startup code to initiate operational control of the load (processes before “Hand over control to main program”, figures 1A, 1B and figure 5; also described as a boot program in paragraph [0079]) so that the electrical load continues to operate in an open control mode while application code is loaded to the memory location (where “Hand over control to main program” takes place is displacing the startup code, figures 1A and 1B and paragraphs [0054] and [0078]; wherein the application code

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is the main program), and resumes operational control of the electrical using the application code (normal operation state, paragraphs [0027], [0029], [0054]).

Sato does not explicitly disclose wherein the startup code is loaded into the memory location.

Broyles teaches wherein startup code is loaded in a memory location (wherein the startup codes is the “boot code” and the memory location is a “RAM” col. 6, lines 58-65). The memory location of Broyles is a RAM, which is similar to that of Sato. Also similar Sato, the startup code of Broyles is also in a ROM. Broyles further teaches that loading of the startup code from the ROM into the RAM provides the advantage of executing the startup code faster because the RAM allows faster execution than the ROM where the startup code is located.

It would have been obvious to one of ordinary skill in the art, having the teachings of Sato and Broyles before them at the time the invention was made, to modify Sato, by loading the startup code of Sato into the memory location.

One of ordinary skill in the art would have been motivated to make this modification in order to increase the speed of execution of the startup code in view of the teachings of Broyles.

15. Regarding claim 15, Sato together with Broyles taught the apparatus according to claim 14, as described above. Sato further teaches further comprising a boot read only memory (ROM), which stores the startup code (Mask ROM 413, figure 3 and paragraph [0079]). Sato together with Broyles teaches wherein the startup code is loaded from the boot ROM to the memory execution for execution by the processor, as set forth hereinabove.

16. Regarding claim 16, Sato together with Broyles taught the apparatus according to claim 14, as described above. Sato further teaches wherein the memory location of the using is

characterized as a first memory, and wherein the apparatus further comprises a second memory location accessible by the processor and into which the processor loads the application code (wherein the second memory is the program loading section 417 in figures 3 and 6; the program loading section receives the application code ("main program") from disk 101, paragraph [0008]).

17. Regarding claim 17, Sato together with Broyles taught the apparatus according to claim 14, as described above. Sato further teaches wherein the electrical load comprises a motor supporting a data storage medium (hard disk 101, figures 2 and 3), and wherein the execution of the startup code by the processor results in the energizing of the motor to rotate the data storage medium at an operational velocity (increasing the rotation speed to common rotation speed, figures 1A and 1B; steady speed figure 5).

18. Regarding claim 18, Sato together with Broyles taught the apparatus according to claim 14, as described above. Sato further teaches comprising an actuator motor coupled to a data transducing head, and wherein the execution of the startup code by the processor further results in the energizing of the actuator motor to bring the head into alignment with a track defined on the data storage medium, the head transducing the application from said track (moving magnetic head to system area, paragraphs [0085] through [0087]).

19. Regarding claims 3-5, 8-13, Sato together with Broyles taught the claimed apparatus, therefore together they teach the claimed method.

#### ***Response to Arguments***

20. Applicant's arguments filed 1-20 have been fully considered but they are not persuasive.

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21. Applicant argues in substance that Sato fails to disclose *“releasing processor control so that the electrical load operates in an open control mode while the first code is displaced with a second code.”* The examiner respectfully disagrees. The term “open control mode” is defined by the Applicant in the specification to be understood *to include a mode of operation whereby the electrical load continues to operate using settings established by the processor prior to the release of processor control and without further processor regulation or intervention, a mode that is not under processor control or simply a mode that is not under any control.* Sato discloses, in paragraphs [0085]-[0087], the disk controlling section is instructed by processor 412 to activate and accelerate the rotation speed of the spindle motor. The processor then waits for stabilization and then downloads the main program and displaces the boot code (paragraph [0088]). Thus, the processor is not controlling the electrical load until the disk controlling section receives an instruction from the processor to further accelerate the electrical load (paragraph [0089]). Thus, in Sato the disk controlling section operates the electrical load using the setting established by the processor prior to release of the processor control and is not further regulated by or intervened by the processor until the second code displaces the first code. Therefore, motor 104 is not under processor control throughout the boot process as alleged by the applicant, but under the control of the disk controlling section that is separate from the processor.

22. Applicant further alleges that Sato in using a branch instruction requires that no interruption take place between boot program control and main program control. The examiner does not disagree that a branch is used for displacing the boot program with little interruption, but as shown above the control of the electrical load is under disk controlling section 411 at the



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point in time and thus the control of the electrical load is not affected because it is not under processor control. The processor requires another specific instruction to further control the electrical load via disk controlling section 411.

23. Applicant further argues that in Sato that no temporary suspension of operational control takes place. The examiner respectfully disagrees for the same reason as set forth hereinabove. That is, a temporary suspension of operational control is interpreted to be when disk controller 411 is controlling the electrical load.

***Conclusion***

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.



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